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33. (amended) A recombinant vector comprising the recombinant nucleic acid molecule claim 1.

36. (amended) A Transgenic plant or plant cell comprising the recombinant antisense nucleic acid of claim 34.

A⁶
37. (amended) A method of isolating a nucleic acid molecule encoding a plant long chain fatty acid condensing enzyme, the method comprising hybridizing a nucleic acid preparation with the nucleic acid probe of claim 20.

REMARKS

By this preliminary amendment, the specification is amended to add a reference to a related provisional application.

Also, claims 24, 28, 30, 32, 33, 36, and 37 are amended to remove multiple dependencies. No new matter has been added by this amendment. Nor was this amendment made for any purpose related to statutory requirements of patentability; rather, the changes are related to purely economic considerations and are in no way meant to limit the scope of any claim.

Respectfully submitted,
KLARQUIST SPARKMAN CAMPBELL
LEIGH & WHINSTON, LLP

By

Tanya M. Harding, Ph.D.
Registration No. 42,630

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 226-7391
Facsimile: (503) 228-9446

**Marked-up Version of Amended Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)**

After entry of the current amendment, the pending claims read as follows:

1. A recombinant nucleic acid molecule comprising a heterologous nucleic acid coding sequence encoding a plant long chain fatty acid condensing enzyme, wherein:
 - a) the nucleic acid coding sequence is derived from an *Arabidopsis KCS2* coding sequence; or
 - b) the plant very long chain fatty acid condensing enzyme catalyses the condensation of malonyl-CoA with a C16, C18, C20 or C22 acyl-CoA, wherein the plant very long chain fatty acid condensing enzyme has an amino acid sequence that is at least 70% identical to an *Arabidopsis KCS2* amino acid sequence when optimally aligned; or
 - c) the nucleic acid coding sequence hybridizes under stringent conditions to a complement of the *Arabidopsis KCS2* coding sequence; or
 - d) the nucleic acid coding sequence at least 70% identical to the *Arabidopsis KCS2* coding sequence when optimally aligned.
2. The recombinant nucleic acid molecule of claim 1 wherein the nucleic acid coding sequence is derived from the *Arabidopsis KCS2* coding sequence.
3. The recombinant nucleic acid molecule of claim 1 wherein the plant very long chain fatty acid condensing enzyme catalyses the condensation of malonyl-CoA with a C16, C18, C20 or C22 acyl-CoA, wherein the plant very long chain fatty acid condensing enzyme has an amino acid sequence that is at least 70% identical to the *Arabidopsis KCS2* amino acid sequence when optimally aligned.
4. The recombinant nucleic acid molecule of claim 1 wherein the nucleic acid coding sequence hybridizes under stringent conditions to the complement of the *Arabidopsis KCS2* coding sequence.
5. The recombinant nucleic acid molecule of claim 1 wherein the nucleic acid coding sequence at least 70% identical to the *Arabidopsis KCS2* coding sequence when optimally aligned.

6. The recombinant nucleic acid molecule of claim 1 wherein the nucleic acid coding sequence at least 90% identical to a wild-type *Arabidopsis KCS2* coding sequence when optimally aligned.

7. The recombinant nucleic acid molecule of claim 1 wherein the nucleic acid coding sequence at least 95% identical to a wild-type *Arabidopsis KCS2* coding sequence when optimally aligned.

8. An isolated nucleic acid molecule comprising a nucleic acid coding sequence that encodes a plant long chain fatty acid condensing enzyme, wherein:

- a) the nucleic acid coding sequence is derived from an *Arabidopsis KCS2* coding sequence; or
- b) the plant long chain fatty acid condensing enzyme catalyses the condensation of malonyl-CoA with a C16, C18, C20 or C22 acyl-CoA, wherein the plant very long chain fatty acid condensing enzyme has an amino acid sequence that is at least 70% identical to an *Arabidopsis KCS2* amino acid sequence when optimally aligned; or
- c) the nucleic acid coding sequence hybridizes under stringent conditions to a complement of the *Arabidopsis KCS2* coding sequence; or
- d) the nucleic acid coding sequence is at least 70% identical to the *Arabidopsis KCS2* coding sequence when optimally aligned.

9. The isolated nucleic acid molecule of claim 8, wherein the nucleic acid coding sequence is derived from the *Arabidopsis KCS2* coding sequence.

10. The isolated nucleic acid molecule of claim 8, wherein the plant long chain fatty acid condensing enzyme catalyses the condensation of malonyl-CoA with a C16, C18, C20 or C22 acyl-CoA, wherein the plant very long chain fatty acid condensing enzyme has an amino acid sequence that is at least 70% identical to an *Arabidopsis KCS2* amino acid sequence when optimally aligned.

11. The isolated nucleic acid molecule of claim 8, wherein the nucleic acid coding sequence hybridizes under stringent conditions to a complement of the *Arabidopsis KCS2* coding sequence.

12. The isolated nucleic acid molecule of claim 8, wherein the nucleic acid coding sequence is at least 70% identical to the *Arabidopsis KCS2* coding sequence when optimally aligned.

13. The isolated nucleic acid molecule of claim 8, wherein the nucleic acid coding sequence is at least 90% identical to a wild-type *Arabidopsis KCS2* coding sequence when optimally aligned.

14. The isolated nucleic acid molecule of claim 8, wherein the nucleic acid coding sequence is at least 95% identical to a wild-type *Arabidopsis KCS2* coding sequence when optimally aligned.

15. A recombinant nucleic acid molecule comprising a promoter sequence operably linked to a nucleic acid sequence, wherein the promoter sequence is capable of mediating gene expression in anthers and in very young leaves in *Arabidopsis* and:

- a) is derived from an *Arabidopsis KCS2* promoter sequence; or
- b) hybridizes under stringent conditions to the *Arabidopsis KCS2* promoter sequence; or,
- c) is at least 70% identical to the *Arabidopsis KCS2* promoter sequence when optimally aligned.

16. The recombinant nucleic acid molecule of claim 15, wherein the promoter sequence is derived from the *Arabidopsis KCS2* promoter sequence.

17. The recombinant nucleic acid molecule of claim 15, wherein the promoter sequence hybridizes under stringent conditions to the *Arabidopsis KCS2* promoter sequence.

18. The recombinant nucleic acid molecule of claim 15, wherein the promoter sequence is at least 70% identical to the *Arabidopsis KCS2* promoter sequence when optimally aligned.

19. The recombinant nucleic acid molecule of claim 15, wherein the promoter sequence is at least 90% identical to a wild-type *Arabidopsis KCS2* promoter sequence when optimally aligned.

20. A nucleic acid probe comprising a probe sequence that:

- a) hybridizes under stringent conditions to a portion of an *Arabidopsis KCS2* genomic sequence;
- or
- b) is at least 70% identical to the portion of an *Arabidopsis KCS2* genomic sequence when optimally aligned.

21. The nucleic acid probe of claim 20 wherein the probe sequence hybridizes under stringent conditions to a portion of the Arabidopsis *KCS2* genomic sequence.

22. The nucleic acid probe of claim 20 wherein the probe sequence is at least 70% identical to the portion of the Arabidopsis *KCS2* genomic sequence when optimally aligned.

23. The nucleic acid probe of claim 20 wherein the probe sequence is at least 90% identical to a portion of a wild-type Arabidopsis *KCS2* genomic sequence when optimally aligned.

24. (amended) A transgenic plant comprising the recombinant nucleic acid molecule of ~~any one of claims 1 through 7~~claim 1.

25. A part of the transgenic plant of claim 24.

26. The part of the transgenic plant of claim 25, wherein the part is a seed.

27. The transgenic plant of claim 24, wherein the transgenic plant has a modified phenotype compared to a non-transgenic plant of the same species.

28. (amended) A transgenic cell comprising the recombinant nucleic acid molecule of ~~any one of claims 1 through 7~~claim 1.

29. The transgenic cell of claim 28, wherein the cell is a plant cell.

30. (amended) A method of producing a transgenic plant comprising introducing into the plant the isolated nucleic acid molecule of ~~any one of claims 8 through 14~~claim 8.

31. A progeny plant produced by sexual or asexual propagation of the transgenic plant produced by the method of claim 30.

32. (amended) A purified protein encoded by the recombinant nucleic acid molecule of ~~any one of claims 1 through 7~~claim 1.

33. (amended) A recombinant vector comprising the recombinant nucleic acid molecule ~~of any one of claims 1 through 7~~claim 1.

34. A recombinant antisense nucleic acid molecule wherein a portion of the heterologous nucleic acid coding sequence of claim 1 is in reverse orientation relative to an adjacent promoter sequence.

35. The recombinant antisense nucleic acid of claim 34, wherein the recombinant antisense nucleic acid encodes an antisense RNA that:

a) hybridizes under stringent conditions to a complement of a portion of the *Arabidopsis KCS2* coding sequence; or

b) is at least 70% identical to a portion of the *Arabidopsis KCS2* coding sequence when optimally aligned.

36. (amended) A Transgenic plant or plant cell comprising the recombinant antisense nucleic acid of claim 34 ~~or 35~~.

37. (amended) A method of isolating a nucleic acid molecule encoding a plant long chain fatty acid condensing enzyme, the method comprising hybridizing a nucleic acid preparation with the nucleic acid probe of ~~any one of claims 20 through 23~~claim 20.